

shall submit for the Office of Environmental Services, Permits Division's approval a detailed plan of study which the discharger will undertake to support its Section 316(a) of the Act demonstration. The discharger shall specify the nature and extent of the following type of information to be included in the plan of study: biological, hydrographical and meteorological data; physical monitoring data; engineering or diffusion models; laboratory studies; representative important species; and other relevant information. In selecting representative important species, special consideration shall be given to species mentioned in applicable water quality standards. After the discharger submits its detailed plan of study, the state administrative authority shall either approve the plan or specify any necessary revisions to the plan. The discharger shall provide any additional information or studies which the state administrative authority subsequently determines necessary to support the demonstration, including such studies or inspections as may be necessary to select representative important species. The discharger may provide any additional information or studies which the discharger feels are appropriate to support the demonstration.

C. Any application for the renewal of a Section 316(a) of the Act variance shall include only such information described in LAC 33:IX.2515.A and B as the state administrative authority requests within 60 days after receipt of the permit application.

D. The state administrative authority shall promptly notify the secretary of commerce and the secretary of the interior, and any affected state of the filing of the request and shall consider any timely recommendations they submit.

E. In making the demonstration the discharger shall consider any information or guidance published by EPA or DEQ to assist in making such demonstrations.

F. If an applicant desires a ruling on a Section 316(a) of the Act application before the ruling on any other necessary permit terms and conditions, it shall so request upon filing its application under LAC 33:IX.2515.A. This request shall be granted or denied at the discretion of the state administrative authority.

[NOTE At the expiration of the permit, any discharger holding a Section 316(a) of the Act variance should be prepared to support the continuation of the variance with studies based on the discharger's actual operation experience.]

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 21:945 (September 1995), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2555 (November 2000).

#### **§2517. Criteria and Standards for the Determination of Alternative Effluent Limitations under Section 316(a) of the Act**

A. Thermal discharge effluent limitations or standards established in permits may be less stringent than those required by applicable standards and limitations if the

discharger demonstrates to the satisfaction of the state administrative authority that such effluent limitations are more stringent than necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is made. This demonstration must show that the alternative effluent limitation desired by the discharger, considering the cumulative impact of its thermal discharge together with all other significant impacts on the species affected, will assure the protection and propagation of a balanced indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made.

B. In determining whether or not the protection and propagation of the affected species will be assured, the state administrative authority may consider any information contained or referenced in any applicable thermal water quality criteria and thermal water quality information published by the administrator under Section 304(a) of the Act, or any other information he deems relevant.

C.1. Existing dischargers may base their demonstration upon the absence of prior appreciable harm in lieu of predictive studies. Any such demonstrations shall show:

a. that no appreciable harm has resulted from the normal component of the discharge taking into account the interaction of such thermal component with other pollutants and the additive effect of other thermal sources to a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge has been made; or

b. that despite the occurrence of such previous harm, the desired alternative effluent limitations (or appropriate modifications thereof) will nevertheless assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is made.

2. In determining whether or not prior appreciable harm has occurred, the state administrative authority shall consider the length of time in which the applicant has been discharging and the nature of the discharge.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 21:945 (September 1995).

### **Subchapter M. Criteria Applicable to Cooling Water Intake Structures under Section 316(b) of the Act**

[NOTE: This Subchapter is written in a special format to make it easier to understand the regulatory requirements. Like other department and USEPA regulations, this establishes enforceable legal requirements. For this Subchapter, *I* and *you* refer to the owner/operator.]

### §2519. What Are the Purpose and Scope of This Subchapter?

A. This Subchapter establishes requirements that apply to the location, design, construction, and capacity of cooling water intake structures at new facilities. The purpose of these requirements is to establish the best technology available for minimizing adverse environmental impact associated with the use of cooling water intake structures. These requirements are implemented through LPDES permits issued in accordance with Section 402 of the CWA, under the assumption of the NPDES program.

B. This Subchapter implements Section 316(b) of the CWA for new facilities. Section 316(b) of the CWA provides that any standard established in accordance with Section 301 or 306 of the CWA and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

C. New facilities that do not meet the threshold requirements regarding amount of water withdrawn or percentage of water withdrawn for cooling water purposes in LAC 33:IX.2520.A must meet requirements determined on a case-by-case, best professional judgment (BPJ) basis.

D. Nothing in this Subchapter shall be construed to preclude or deny the right of any state or political subdivision of a state or any interstate agency under Section 510 of the CWA to adopt or enforce any requirement with respect to control or abatement of pollution that is more stringent than those required by federal law.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1767 (August 2002).

### §2520. Who is Subject to This Subchapter?

A. This Subchapter applies to a new facility if it:

1. is a point source that uses or proposes to use a cooling water intake structure;
2. has at least one cooling water intake structure that uses at least 25 percent of the water it withdraws for cooling purposes as specified in Subsection C of this Section; and
3. has a design intake flow greater than two million gallons per day (MGD).

B. Use of a cooling water intake structure includes obtaining cooling water by any sort of contract or arrangement with an independent supplier (or multiple suppliers) of cooling water if the supplier or suppliers withdraw(s) water from waters of the state. Use of cooling water does not include obtaining cooling water from a public water system or the use of treated effluent that otherwise would be discharged to a water of the state. This provision is intended to prevent circumvention of these requirements by creating arrangements to receive cooling water from an entity that is not itself a point source.

C. The threshold requirement that at least 25 percent of water withdrawn be used for cooling purposes must be measured on an average monthly basis. A new facility meets the 25 percent cooling water threshold if, based on the new facility's design, any monthly average over a year for the percentage of cooling water withdrawn is expected to equal or exceed 25 percent of the total water withdrawn.

D. This Subchapter does not apply to facilities that employ cooling water intake structures in the offshore and coastal subcategories of the oil and gas extraction point source category, as defined under 40 CFR 435.10 and 40 CFR 435.40.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1767 (August 2002).

### §2521. When Must I Comply with This Subchapter?

A. You must comply with this Subchapter when an LPDES permit containing requirements consistent with this Subchapter is issued to you.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1768 (August 2002).

### §2522. What Special Definitions Apply to This Subchapter?

**Annual Mean Flow**—the average of daily flows over a calendar year. Historical data (up to 10 years) must be used where available.

**Closed-Cycle Recirculating System**—a system designed, using minimized makeup and blowdown flows, to withdraw water from a natural or other water source to support contact and/or noncontact cooling uses within a facility. The water is usually sent to a cooling canal or channel, lake, pond, or tower to allow waste heat to be dissipated to the atmosphere and then is returned to the system. (Some facilities divert the waste heat to other process operations.) New source water (makeup water) is added to the system to replenish losses that have occurred due to blowdown, drift, and evaporation.

**Cooling Water**—water used for contact or noncontact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used or from auxiliary operations on the facility's premises. Cooling water that is used in a manufacturing process, either before or after it is used for cooling, is considered process water for the purposes of calculating the percentage of a new facility's intake flow that is used for cooling purposes in LAC 33:IX.2520.C.

**Cooling Water Intake Structure**—the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the state. The cooling water intake structure extends from the point at which water

is withdrawn from the surface water source up to, and including, the intake pumps.

**Design Intake Flow**—the value assigned (during the facility's design) to the total volume of water withdrawn from a source water body over a specific time period.

**Design Intake Velocity**—the value assigned (during the design of a cooling water intake structure) to the average speed at which intake water passes through the open area of the intake screen (or other device) against which organisms might be impinged or through which they might be entrained.

**Entrainment**—the incorporation of all life stages of fish and shellfish with intake water flow entering and passing through a cooling water intake structure and into a cooling water system.

**Estuary**—a semi-enclosed body of water that has a free connection with open seas and within which the seawater is measurably diluted with fresh water derived from land drainage. The salinity of an estuary exceeds 0.5 parts per thousand (by mass), but is typically less than 30 parts per thousand (by mass).

**Existing Facility**—any facility that is not a new facility.

**Freshwater River or Stream**—a lotic (free-flowing) system that does not receive significant inflows of water from oceans or bays due to tidal action. For the purposes of these regulations, a flow-through reservoir with a retention time of seven days or less will be considered a freshwater river or stream.

**Hydraulic Zone of Influence**—that portion of the source water body hydraulically affected by the cooling water intake structure withdrawal of water.

**Impingement**—the entrapment of all life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal.

**Lake or Reservoir**—any inland body of open water with some minimum surface area free of rooted vegetation and with an average hydraulic retention time of more than seven days. Lakes or reservoirs might be natural water bodies or impounded streams, usually fresh, surrounded by land or by land and a manmade retainer (e.g., a dam). Lakes or reservoirs might be fed by rivers, streams, springs, and/or local precipitation. Flow-through reservoirs with an average hydraulic retention time of seven days or less should be considered a freshwater river or stream.

**Maximize**—to increase to the greatest amount, extent, or degree reasonably possible.

**Minimum Ambient Source Water Surface Elevation**—the elevation of the 7Q10 flow for freshwater streams or rivers, the conservation pool level for lakes or reservoirs, or the mean low tidal water level for estuaries or oceans. The 7Q10 flow is the lowest average seven consecutive day low flow with an average frequency of one in ten years determined hydrologically. The conservation pool is the minimum depth of water needed in a reservoir to ensure proper performance

of the system relying upon the reservoir. The mean low tidal water level is the average height of the low water over at least 19 years.

**Minimize**—to reduce to the smallest amount, extent, or degree reasonably possible.

**Natural Thermal Stratification**—the naturally-occurring division of a water body into horizontal layers of differing densities as a result of variations in temperature at different depths.

**New Facility**—any building, structure, facility, or installation that meets the definition of a *new source* or *new discharger* in 40 CFR 122.29(b)(1), (2), and (4) and LAC 33:IX.2313 and is a *greenfield* or *stand-alone facility* (as defined below), commences construction after January 17, 2002, and uses either a newly constructed cooling water intake structure or an existing cooling water intake structure whose design capacity is increased to accommodate the intake of additional cooling water. New facilities include only greenfield and stand-alone facilities. A *greenfield facility* is a facility that is constructed at a site at which no other source is located or that totally replaces the process or production equipment at an existing facility [see 40 CFR 122.29(b)(1)(i) and (ii)]. A *stand-alone facility* is a new, separate facility that is constructed on property where an existing facility is located and whose processes are substantially independent of the existing facility at the same site [see 40 CFR 122.29(b)(1)(iii)]. New facility does not include new units that are added to a facility for purposes of the same general industrial operation (e.g., a new peaking unit at an electrical generating station).

1. Examples of *new facilities* include, but are not limited to, the following scenarios.

a. A new facility is constructed on a site that has never been used for industrial or commercial activity. It has a new cooling water intake structure for its own use.

b. A facility is demolished and another facility is constructed in its place. The newly-constructed facility uses the original facility's cooling water intake structure, but modifies it to increase the design capacity to accommodate the intake of additional cooling water.

c. A facility is constructed on the same property as an existing facility, but is a separate and independent industrial operation. The cooling water intake structure used by the original facility is modified by constructing a new intake bay for the use of the newly constructed facility or is otherwise modified to increase the intake capacity for the new facility.

2. Examples of facilities that would not be considered *new facilities* include, but are not limited to, the following scenarios.

a. A facility in commercial or industrial operation is modified and either continues to use its original cooling water intake structure or uses a new or modified cooling water intake structure.

b. A facility has an existing intake structure. Another facility (a separate and independent industrial operation) is constructed on the same property and connects to the facility's cooling water intake structure behind the intake pumps and the design capacity of the cooling water intake structure has not been increased. This facility would not be considered a *new facility* even if routine maintenance or repairs that do not increase the design capacity were performed on the intake structure.

*Ocean*—marine open coastal waters with a salinity greater than or equal to 30 parts per thousand (by mass).

*Source Water*—the water body (waters of the state) from which the cooling water is withdrawn.

*Thermocline*—the middle layer of a thermally stratified lake or reservoir. In this layer there is a rapid decrease in temperatures.

*Tidal Excursion*—the horizontal distance along the estuary or tidal river that a particle moves during one tidal cycle of ebb and flow.

*Tidal River*—the most seaward reach of a river or stream where the salinity is typically less than or equal to 0.5 parts per thousand (by mass) at a time of annual low flow and whose surface elevation responds to the effects of coastal lunar tides.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4)

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1768 (August 2002).

**§2523. As an Owner or Operator of a New Facility,  
What Must I Do to Comply with This  
Subchapter?**

A. The owner or operator of a new facility may be required to comply with Subsection E of this Section, and must comply with the requirements of either:

1. Track I in Subsection B or C of this Section; or
2. Track II in Subsection D of this Section.

B. Track I Requirements for New Facilities That Withdraw Equal to or Greater than 10 MGD For these facilities, you must comply with all of the following requirements.

1. You must reduce your intake flow, at a minimum, to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system.
2. You must design and construct each cooling water intake structure at your facility to a maximum through-screen design intake velocity of 0.5 ft/s.
3. You must design and construct your cooling water intake structure so that the total design intake flow from all cooling water intake structures at your facility meets the following requirements.

a. For cooling water intake structures located in a freshwater river or stream, the total design intake flow must

be no greater than 5 percent of the source water annual mean flow.

b. For cooling water intake structures located in a lake or reservoir, the total design intake flow must not disrupt the natural thermal stratification or turnover pattern (where present) of the source water, except in cases when the disruption is determined to be beneficial to the management of fisheries for fish and shellfish by any fishery management agency(ies).

c. For cooling water intake structures located in an estuary or tidal river, the total design intake flow over one tidal cycle of ebb and flow must be no greater than 1 percent of the volume of the water column within the area centered about the opening of the intake with a diameter defined by the distance of one tidal excursion at the mean low water level.

4. You must select and implement design and construction technologies or operational measures for minimizing impingement mortality of fish and shellfish if:

a. there are threatened or endangered or otherwise protected federal, state, or tribal species, or critical habitat for these species, within the hydraulic zone of influence of the cooling water intake structure;

b. there are migratory and/or sport or commercial species of impingement concern to the state administrative authority or any fishery management agency(ies) that pass through the hydraulic zone of influence of the cooling water intake structure; or

c. it is determined by the state administrative authority or any fishery management agency(ies) that the proposed facility, after meeting the technology-based performance requirements in Paragraphs B.1, 2, and 3 of this Section, would still contribute unacceptable stress to the protected species, critical habitat of those species, or species of concern.

5. You must select and implement design and construction technologies or operational measures for minimizing entrainment of entrainable life stages of fish and shellfish if:

a. there are threatened or endangered or otherwise protected federal, state, or tribal species, or critical habitat for these species, within the hydraulic zone of influence of the cooling water intake structure; or

b. there are, or would be, undesirable cumulative stressors affecting entrainable life stages of species of concern to the state administrative authority or any fishery management agency(ies), and it is determined by the state administrative authority or any fishery management agency(ies) that the proposed facility, after meeting the technology-based performance requirements in Paragraphs B.1, 2, and 3 of this Section, would contribute unacceptable stress to these species of concern.

6. You must submit the application information required in LAC 33:IX.2331.R and 2525.B.

7. You must implement the monitoring requirements specified in LAC 33:IX.2526.

8. You must implement the recordkeeping requirements specified in LAC 33:IX.2527.

C. Track I Requirements for New Facilities That Withdraw Equal to or Greater Than 2 MGD and Less Than 10 MGD and That Choose Not to Comply With Subsection B of this Section. For these facilities you must comply with all the following requirements.

1. You must design and construct each cooling water intake structure at your facility to a maximum through-screen design intake velocity of 0.5 ft/s.

2. You must design and construct your cooling water intake structure so that the total design intake flow from all cooling water intake structures at your facility meets the following requirements.

a. For cooling water intake structures located in a freshwater river or stream, the total design intake flow must be no greater than 5 percent of the source water annual mean flow.

b. For cooling water intake structures located in a lake or reservoir, the total design intake flow must not disrupt the natural thermal stratification or turnover pattern (where present) of the source water, except in cases when the disruption is determined to be beneficial to the management of fisheries for fish and shellfish by any fishery management agency(ies).

c. For cooling water intake structures located in an estuary or tidal river, the total design intake flow over one tidal cycle of ebb and flow must be no greater than 1 percent of the volume of the water column within the area centered about the opening of the intake with a diameter defined by the distance of one tidal excursion at the mean low water level.

3. You must select and implement design and construction technologies or operational measures for minimizing impingement mortality of fish and shellfish if:

a. there are threatened or endangered or otherwise protected federal, state, or tribal species, or critical habitat for these species, within the hydraulic zone of influence of the cooling water intake structure;

b. there are migratory and/or sport or commercial species of impingement concern to the state administrative authority or any fishery management agency(ies) that pass through the hydraulic zone of influence of the cooling water intake structure; or

c. it is determined by the state administrative authority or any fishery management agency(ies) that the proposed facility, after meeting the technology-based performance requirements in Paragraphs C.1 and 2 of this Section, would still contribute unacceptable stress to the protected species, critical habitat of those species, or species of concern.

4. You must select and implement design and construction technologies or operational measures for minimizing entrainment of entrainable life stages of fish and shellfish.

5. You must submit the application information required in LAC 33:IX.2331.R and 2525.B.2, 3, and 4.

6. You must implement the monitoring requirements specified in LAC 33:IX.2526.

7. You must implement the recordkeeping requirements specified in LAC 33:IX.2527.

D. Track II. The owner or operator of a new facility that chooses to comply under Track II must comply with the following requirements.

1. You must demonstrate to the state administrative authority that the technologies employed will reduce the level of adverse environmental impact from your cooling water intake structures to a comparable level to that which you would achieve were you to implement the requirements of Paragraphs B.1 and 2 of this Section.

a. Except as specified in Subparagraph D.1.b of this Section, this demonstration must include a showing that the impacts to fish and shellfish, including important forage and predator species, within the watershed will be comparable to those that would result if you were to implement the requirements of Paragraphs B.1 and 2 of this Section. This showing may include consideration of impacts other than impingement mortality and entrainment, including measures that will result in increases in fish and shellfish, but it must demonstrate comparable performance for species that the state administrative authority, in consultation with national, state, or tribal fishery management agencies with responsibility for fisheries potentially affected by your cooling water intake structure, identifies as species of concern.

b. In cases where air emissions and/or energy impacts that would result from meeting the requirements of Paragraphs B.1 and 2 of this Section would result in significant adverse impacts on local air quality, significant adverse impact on local water resources not addressed under Subparagraph D.1.a of this Section, or significant adverse impact on local energy markets, you may request alternative requirements under LAC 33:IX.2524.

2. You must design and construct your cooling water intake structure so that the total design intake flow from all cooling water intake structures at your facility meet the following requirements.

a. For cooling water intake structures located in a freshwater river or stream, the total design intake flow must be no greater than 5 percent of the source water annual mean flow.

b. For cooling water intake structures located in a lake or reservoir, the total design intake flow must not disrupt the natural thermal stratification or turnover pattern (where present) of the source water, except in cases where

the disruption is determined to be beneficial to the management of fisheries for fish and shellfish by any fishery management agency(ies).

c. For cooling water intake structures located in an estuary or tidal river, the total design intake flow over one tidal cycle of ebb and flow must be no greater than 1 percent of the volume of the water column within the area centered about the opening of the intake with a diameter defined by the distance of one tidal excursion at the mean low water level.

3. You must submit the application information required in LAC 33:IX.2331.R and 2525.C.

4. You must implement the monitoring requirements specified in LAC 33:IX.2526.

5. You must implement the recordkeeping requirements specified in LAC 33:IX.2527.

E. You must comply with any more stringent requirements relating to the location, design, construction, and capacity of a cooling water intake structure or monitoring requirements at a new facility that the state administrative authority deems reasonably necessary to comply with any provision of state law, including compliance with applicable state water quality standards (including designated uses, criteria, and antidegradation requirements).

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28.1769 (August 2002).

#### **§2524. May Alternative Requirements Be Authorized?**

A. Any interested person may request that alternative requirements less stringent than those specified in LAC 33:IX.2523.A-E be imposed in the permit. The state administrative authority may establish alternative requirements less stringent than the requirements of LAC 33:IX.2523.A-E only if:

1. there is an applicable requirement under LAC 33:IX.2523.A-E;

2. the state administrative authority determines that data specific to the facility indicate that compliance with the requirement at issue would result in compliance costs wholly out of proportion to those EPA considered in establishing the requirement at issue or would result in significant adverse impacts on local air quality, significant adverse impacts on local water resources not addressed under LAC 33:IX.2523.D.1.a, or significant adverse impacts on local energy markets;

3. the alternative requirement requested is no less stringent than justified by the wholly out of proportion cost or the significant adverse impacts on local air quality, significant adverse impacts on local water resources not addressed under LAC 33:IX.2523.D.1.a, or significant adverse impacts on local energy markets; and

4. the alternative requirement will ensure compliance with other applicable provisions of the CWA and any applicable requirement of state law.

B. The burden is on the person requesting the alternative requirement to demonstrate that the alternative requirements should be authorized.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1771 (August 2002).

#### **§2525. As an Owner or Operator of a New Facility, What Must I Collect and Submit When I Apply for My New or Reissued LPDES Permit?**

A. As an owner or operator of a new facility, you must submit the application information required by LAC 33:IX.2331.R and the information required in either Subsection B of this Section for Track I or Subsection C of this Section for Track II when you apply for a new or reissued LPDES permit in accordance with LAC 33:IX.2331. You must also submit to the state administrative authority a statement that you intend to comply with either:

1. the Track I requirements for new facilities that withdraw equal to or greater than 10 MGD in LAC 33:IX.2523.B;

2. the Track I requirements for new facilities that withdraw equal to or greater than 2 MGD and less than 10 MGD in LAC 33:IX.2523.C; or

3. the requirements for Track II in LAC 33:IX.2523.D.

B. Track I Application Requirements. To demonstrate compliance with Track I requirements in LAC 33:IX.2523.B or C, you must collect and submit to the state administrative authority the information in Paragraphs B.1-4 of this Section.

1. Flow Reduction Information. If you must comply with the flow reduction requirements in LAC 33:IX.2523.B.1, you must submit the following information to the state administrative authority to demonstrate that you have reduced your flow to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system:

a. a narrative description of your system that has been designed to reduce your intake flow to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system and any engineering calculations, including documentation demonstrating that your makeup and blowdown flows have been minimized; and

b. if the flow reduction requirement is met entirely or in part by reusing or recycling water withdrawn for cooling purposes in subsequent industrial processes, you must provide documentation that the amount of cooling water that is not reused or recycled has been minimized.

2. **Velocity Information** You must submit the following information to the state administrative authority to demonstrate that you are complying with the requirement to meet a maximum through-screen design intake velocity of no more than 0.5 ft/s at each cooling water intake structure as required in LAC 33:IX.2523.B.2 and C.1:

a. a narrative description of the design, structure, equipment, and operation used to meet the velocity requirement; and

b. design calculations showing that the velocity requirement will be met at minimum ambient source water surface elevations (based on best professional judgment using available hydrological data) and maximum head loss across the screens or other device.

3. **Source Water Body Flow Information.** You must submit to the state administrative authority the following information to demonstrate that your cooling water intake structure meets the flow requirements in LAC 33:IX.2523.B.3 and C.2.

a. If your cooling water intake structure is located in a freshwater river or stream, you must provide the annual mean flow and any supporting documentation and engineering calculations to show that your cooling water intake structure meets the flow requirements.

b. If your cooling water intake structure is located in an estuary or tidal river, you must provide the mean low water tidal excursion distance and any supporting documentation and engineering calculations to show that your cooling water intake structure facility meets the flow requirements.

c. If your cooling water intake structure is located in a lake or reservoir, you must provide a narrative description of the water body thermal stratification and any supporting documentation and engineering calculations to show that the natural thermal stratification and turnover pattern will not be disrupted by the total design intake flow. In cases where the disruption is determined to be beneficial to the management of fisheries for fish and shellfish, you must provide supporting documentation and include a written concurrence from any fisheries management agency(ies) with responsibility for fisheries potentially affected by your cooling water intake structure(s).

4. **Design and Construction Technology Plan.** To comply with LAC 33:IX.2523.B.4 and 5 or C.3 and 4, you must submit to the state administrative authority the following information in a design and construction technology plan:

a. information to demonstrate whether or not you meet the criteria in LAC 33:IX.2523.B.4 and 5 or C.3 and 4;

b. delineation of the hydraulic zone of influence for your cooling water intake structure; and

c. for new facilities required to install design and construction technologies and/or operational measures, a plan explaining the technologies and measures you have

selected based on information collected for the source water biological baseline characterization required by LAC 33:IX.2331.R.4. (Examples of appropriate technologies include, but are not limited to, wedgewire screens, fine mesh screens, fish-handling and return systems, barrier nets, and aquatic filter barrier systems. Examples of appropriate operational measures include, but are not limited to, seasonal shutdowns or reductions in flow and continuous operations of screens.) The plan must contain the following information:

i. a narrative description of the design and operation of the design and construction technologies, including fish-handling and return systems, that you will use to maximize the survival of those species expected to be most susceptible to impingement. You must provide species-specific information that demonstrates the efficacy of the technology;

ii. a narrative description of the design and operation of the design and construction technologies that you will use to minimize entrainment of those species expected to be the most susceptible to entrainment. You must provide species-specific information that demonstrates the efficacy of the technology; and

iii. design calculations, drawings, and estimates to support the descriptions provided in Clauses B.4.c.i and ii of this Section.

C. **Application Requirements for Track II.** If you have chosen to comply with the requirements of Track II in LAC 33:IX.2523.D, you must collect and submit the following information.

1. **Source Water Body Flow Information.** You must submit to the state administrative authority the following information to demonstrate that your cooling water intake structure meets the source water body requirements in LAC 33:IX.2523.D.2.

a. If your cooling water intake structure is located in a freshwater river or stream, you must provide the annual mean flow and any supporting documentation and engineering calculations to show that your cooling water intake structure meets the flow requirements.

b. If your cooling water intake structure is located in an estuary or tidal river, you must provide the mean low water tidal excursion distance and any supporting documentation and engineering calculations to show that your cooling water intake structure facility meets the flow requirements.

c. If your cooling water intake structure is located in a lake or reservoir, you must provide a narrative description of the water body thermal stratification and any supporting documentation and engineering calculations to show that the natural thermal stratification and thermal or turnover pattern will not be disrupted by the total design intake flow. In cases where the disruption is determined to be beneficial to the management of fisheries for fish and shellfish, you must provide supporting documentation and

include a written concurrence from any fisheries management agency(ies) with responsibility for fisheries potentially affected by your cooling water intake structure(s).

2. **Track II Comprehensive Demonstration Study** You must perform and submit the results of a comprehensive demonstration study (study). This information is required to characterize the source water baseline in the vicinity of the cooling water intake structure(s), characterize operation of the cooling water intake(s), and to confirm that the technology(ies) proposed and/or implemented at your cooling water intake structure reduce the impacts to fish and shellfish to levels comparable to those you would achieve were you to implement the requirements in LAC 33:IX.2523.B.1 and 2 of Track I. To meet the "comparable level" requirement, you must demonstrate that:

a. you have reduced both impingement mortality and entrainment of all life stages of fish and shellfish to 90 percent or greater of the reduction that would be achieved through LAC 33:IX.2523.B.1 and 2; or

b. if your demonstration includes consideration of impacts other than impingement mortality and entrainment, that the measures taken will maintain the fish and shellfish in the water body at a substantially similar level to that which would be achieved through LAC 33:IX.2523.B.1 and 2; and

c. you must develop and submit a plan to the state administrative authority containing a proposal for how information will be collected to support the study. The plan must include:

i. a description of the proposed and/or implemented technology(ies) to be evaluated in the study;

ii. a list and description of any historical studies characterizing the physical and biological conditions in the vicinity of the proposed or actual intakes and their relevancy to the proposed study. If you propose to rely on existing source water body data, it must be no more than five years old, you must demonstrate that the existing data are sufficient to develop a scientifically valid estimate of potential impingement and entrainment impacts, and you must provide documentation showing that the data were collected using appropriate quality assurance/quality control procedures;

iii. any public participation or consultation with federal or state agencies undertaken in developing the plan; and

iv. a sampling plan for data that will be collected using actual field studies in the source water body. The sampling plan must document all methods and quality assurance procedures for sampling and data analysis. The sampling and data analysis methods you propose must be appropriate for a quantitative survey and based on consideration of methods used in other studies performed in the source water body. The sampling plan must include a description of the study area (including the area of influence of the cooling water intake structure and at least 100 meters

beyond), taxonomic identification of the sampled or evaluated biological assemblages (including all life stages of fish and shellfish), and sampling and data analysis methods; and

d. you must submit documentation of the results of the study to the state administrative authority. Documentation of the results of the study must include:

i. **Source Water Biological Study.** The source water biological study must include:

(a). a taxonomic identification and characterization of aquatic biological resources including a summary of historical and contemporary aquatic biological resources, determination and description of the target populations of concern (those species of fish and shellfish and all life stages that are most susceptible to impingement and entrainment), and a description of the abundance and temporal/spatial characterization of the target populations based on the collection of multiple years of data to capture the seasonal and daily activities (e.g., spawning, feeding, and water column migration) of all life stages of fish and shellfish found in the vicinity of the cooling water intake structure;

(b). an identification of all threatened or endangered species that might be susceptible to impingement and entrainment by the proposed cooling water intake structure(s); and

(c). a description of additional chemical, water quality, and other anthropogenic stresses on the source water body.

ii. **Evaluation of Potential Cooling Water Intake Structure Effects.** This evaluation will include:

(a). calculations of the reduction in impingement mortality and entrainment of all life stages of fish and shellfish that would need to be achieved by the technologies you have selected to implement to meet requirements under Track II. To do this, you must determine the reduction in impingement mortality and entrainment that would be achieved by implementing the requirements of LAC 33:IX.2523.B.1 and 2 of Track I at your site; and

(b). an engineering estimate of efficacy for the proposed and/or implemented technologies used to minimize impingement mortality and entrainment of all life stages of fish and shellfish and maximize survival of impinged life stages of fish and shellfish. You must demonstrate that the technologies reduce impingement mortality and entrainment of all life stages of fish and shellfish to a comparable level to that which you would achieve were you to implement the requirements in LAC 33:IX.2523.B.1 and 2 of Track I. The efficacy projection must include a site-specific evaluation of technology(ies) suitability for reducing impingement mortality and entrainment based on the results of the source water biological study in Clause C.2.d.i of this Section. Efficacy estimates may be determined based on case studies that have been conducted in the vicinity of the cooling water intake structure and/or site-specific technology prototype studies.



iii. Evaluation of Proposed Restoration Measures

If you propose to use restoration measures to maintain the fish and shellfish, as allowed in LAC 33:IX.2523.D.1.a, you must provide the following information to the state administrative authority:

(a). information and data to show that you have coordinated with the appropriate fishery management agency(ies); and

(b). a plan that provides a list of the measures you plan to implement and how you will demonstrate and continue to ensure that your restoration measures will maintain the fish and shellfish in the water body to a substantially similar level to that which would be achieved through LAC 33:IX.2523.B.1 and 2.

iv. Verification Monitoring Plan. You must include in the study the following:

(a). a plan to conduct, at a minimum, two years of monitoring to verify the full-scale performance of the proposed or implemented technologies and operational measures. The verification study must begin at the start of operations of the cooling water intake structure and continue for a sufficient period of time to demonstrate that the facility is reducing the level of impingement and entrainment to the level documented in Clause C.2.d.ii of this Section. The plan must describe the frequency of monitoring and the parameters to be monitored. The state administrative authority will use the verification monitoring to confirm that you are meeting the level of impingement mortality and entrainment reduction required in LAC 33:IX.2523.D and that the operation of the technology has been optimized; and

(b). a plan to conduct monitoring to verify that the restoration measures will maintain the fish and shellfish in the water body to a substantially similar level as that which would be achieved through LAC 33:IX.2523.B.1 and 2.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4)

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1771 (August 2002).

**§2526. As an Owner or Operator of a New Facility, Must I Perform Monitoring?**

A. As an owner or operator of a new facility, you will be required to perform monitoring to demonstrate your compliance with the requirements specified in LAC 33:IX.2523.

B. Biological Monitoring. You must monitor both impingement and entrainment of the commercial, recreational, and forage base fish and shellfish species identified in either the source water baseline biological characterization data required by LAC 33:IX.2331.R.4 or the comprehensive demonstration study required by LAC 33:IX.2525.C.2, depending on whether you chose to comply with Track I or Track II. The monitoring methods used must be consistent with those used for the source water baseline biological characterization data required by LAC August 2003

33:IX.2331.R.4 or the comprehensive demonstration study required by LAC 33:IX.2525.C.2. You must follow the monitoring frequencies identified in Paragraphs B.1 and 2 of this Section for at least two years after the initial permit issuance. After that time, the state administrative authority may approve a request for less frequent sampling in the remaining years of the permit term and when the permit is reissued, if supporting data show that less frequent monitoring would still allow for the detection of any seasonal and daily variations in the species and numbers of individuals that are impinging or entrained.

1. Impingement Sampling. You must collect samples to monitor impingement rates (simple enumeration) for each species over a 24-hour period and no less than once per month when the cooling water intake structure is in operation.

2. Entrainment Sampling. You must collect samples to monitor entrainment rates (simple enumeration) for each species over a 24-hour period and no less than biweekly during the primary period of reproduction, larval recruitment, and peak abundance identified during the source water baseline biological characterization required by LAC 33:IX.2331.R.4 or the comprehensive demonstration study required by LAC 33:IX.2525.C.2. You must collect samples only when the cooling water intake structure is in operation.

C. Velocity Monitoring. If your facility uses surface intake screen systems, you must monitor head loss across the screens and correlate the measured value with the design intake velocity. The head loss across the intake screen must be measured at the minimum ambient source water surface elevation (best professional judgment based on available hydrological data). The maximum head loss across the screen for each cooling water intake structure must be used to determine compliance with the velocity requirement in LAC 33:IX.2523.B.2 or C.1. If your facility uses devices other than surface intake screens, you must monitor velocity at the point of entry through the device. You must monitor head loss or velocity during initial facility startup and, thereafter, at the frequency specified in your LPDES permit, but no less than once per quarter.

D. Visual or Remote Inspections. You must either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation. You must conduct visual inspections at least weekly to ensure that any design and construction technologies required in LAC 33:IX.2523.B.4 and 5 or C.3 and 4 are maintained and operated to ensure that they will continue to function as designed. Alternatively, you must inspect via remote monitoring devices to ensure that the impingement and entrainment technologies are functioning as designed.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4)

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1774 (August 2002).

**§2527. As an Owner or Operator of a New Facility, Must I Keep Records and Report?**

A. As an owner or operator of a new facility, you are required to keep records and report information and data to the state administrative authority as described in Subsections B and C of this Section.

B. You must keep records of all the data used to complete the permit application and show compliance with the requirements, any supplemental information developed under LAC 33:IX.2525, and any compliance monitoring data submitted under LAC 33:IX.2526 for a period of at least three years from the date of permit issuance. The state administrative authority may require that these records be kept for a longer period.

C. You must provide the following to the state administrative authority in a yearly status report:

1. biological monitoring records for each cooling water intake structure as required by LAC 33:IX.2526.B;

2. velocity and head loss monitoring records for each cooling water intake structure as required by LAC 33:IX.2526.C; and

3. records of visual or remote inspections as required by LAC 33:IX.2526.D.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28:1774 (August 2002).

**§2528. What Must the State Administrative Authority Do to Comply with the Requirements of this Subchapter?**

A. Permit Application. The state administrative authority must review materials submitted by the applicant under LAC 33:IX.2331.R.3 and 2525 at the time of the initial permit application and before each permit renewal or reissuance.

1. After receiving the initial permit application from the owner or operator of a new facility, the state administrative authority must determine applicable standards in LAC 33:IX.2523 to apply to the new facility. In addition, the state administrative authority must review materials to determine compliance with the applicable standards.

2. For each subsequent permit renewal, the state administrative authority must review the application materials and monitoring data to determine whether requirements or additional requirements for design and construction technologies or operational measures should be included in the permit.

3. For Track II facilities, the state administrative authority may review the information collection proposal plan required by LAC 33:IX.2525.C.2.c. The facility may initiate sampling and data collection activities prior to receiving comment from the state administrative authority.

B. Permitting Requirements. Section 316(b) of the CWA requirements are implemented for a facility through an

LPDES permit. The state administrative authority must determine, based on the information submitted by the new facility in its permit application, the appropriate requirements and conditions to include in the permit based on the track (Track I or Track II) the new facility has chosen to comply with. The following requirements must be included in each permit.

1. Cooling Water Intake Structure Requirements At a minimum, the permit conditions must include the performance standards that implement the requirements of LAC 33:IX.2523.B.1, 2, 3, 4, and 5, C.1, 2, 3, and 4, or D.1 and 2. In determining compliance with proportional flow requirement in LAC 33:IX.2523.B.3.b, C.2.b, and D.2.b, the state administrative authority must consider anthropogenic factors (those not considered "natural") unrelated to the new facility's cooling water intake structure that can influence the occurrence and location of a thermocline. These include source water inflows, other water withdrawals, managed water uses, wastewater discharges, and flow/level management practices (i.e., some reservoirs release water from below the surface, close to the deepest areas).

a. For a facility that chooses Track I, the state administrative authority must review the design and construction technology plan required in LAC 33:IX.2525.B.4 to evaluate the suitability and feasibility of the technology proposed to minimize impingement mortality and entrainment of all life stages of fish and shellfish. In the first permit issued, the state administrative authority must put a condition requiring the facility to reduce impingement mortality and entrainment commensurate with the implementation of the technologies in the permit. Under subsequent permits, the state administrative authority must review the performance of the technologies implemented and require additional or different design and construction technologies, if needed to minimize impingement mortality and entrainment of all life stages of fish and shellfish. In addition, the state administrative authority must consider whether more stringent conditions are reasonably necessary in accordance with LAC 33:IX.2523.E.

b. For a facility that chooses Track II, the state administrative authority must review the information submitted with the comprehensive demonstration study information required in LAC 33:IX.2525.C.2 and evaluate the suitability of the proposed design and construction technologies and operational measures to determine whether they will reduce both impingement mortality and entrainment of all life stages of fish and shellfish to 90 percent or greater of the reduction that could be achieved through Track I. If the state administrative authority determines that restoration measures are appropriate at the new facility for consideration of impacts other than impingement mortality and entrainment, the state administrative authority must review the evaluation of proposed restoration measures and evaluate whether the proposed measures will maintain the fish and shellfish in the water body at a substantially similar level to that which would be achieved through LAC 33:IX.2523.B.1 and 2. In addition, the state administrative authority must review the

verification monitoring plan in LAC 33:IX.2525.C.2.d.iv and require that the proposed monitoring begin at the start of operations of the cooling water intake structure and continue for a sufficient period of time to demonstrate that the technologies, operational measures, and restoration measures meet the requirements in LAC 33:IX.2523.D.1. Under subsequent permits, the state administrative authority must review the performance of the additional and/or different technologies or measures used and determine that they reduce the level of adverse environmental impact from the cooling water intake structures to a comparable level that the facility would achieve were it to implement the requirements of LAC 33:IX.2523.B.1 and 2.

2. **Monitoring Conditions.** At a minimum, the permit must require the permittee to perform the monitoring required in LAC 33:IX.2526. The state administrative authority may modify the monitoring program when the permit is reissued and during the term of the permit based on changes in physical or biological conditions in the vicinity of the cooling water intake structure. The state administrative authority may require continued monitoring based on the results of the verification monitoring plan in LAC 33:IX.2525.C.2.d.iv.

3. **Recordkeeping and Reporting.** At a minimum, the permit must require the permittee to report and keep records as required by LAC 33:IX.2527.

**AUTHORITY NOTE.** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE.** Promulgated by the Department of Environmental Quality, Office of Environmental Assessment, Environmental Planning Division, LR 28 1774 (August 2002).

### **Subchapter N. Incorporation by Reference**

#### **§2531. 40 CFR Part 136**

A. 40 CFR Part 136, July 1, 2002, Guidelines Establishing Test Procedures for the Analysis of Pollutants, is hereby incorporated by reference in its entirety.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE.** Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 21.945 (September 1995), amended LR 23:958 (August 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 25:1467 (August 1999), LR 26 1609 (August 2000), LR 27.2231 (December 2001), LR 28:996 (May 2002), LR 29:700 (May 2003).

#### **§2533. 40 CFR Chapter I, Subchapter N**

A. 40 CFR, Chapter I, Subchapter N, Effluent Guidelines and Standards, Parts 401 and 405-471, July 1, 2002, and amendments to Part 420 in 67 FR 58997, September 19, 2002; Part 430 in 67 FR 64260-64268, October 17, 2002; and Part 412 in 68 FR 7269, February 12, 2003, are hereby incorporated by reference.

**AUTHORITY NOTE.** Promulgated in accordance with R.S. 30:2001 et seq., and in particular Section 2074(B)(3) and (B)(4).

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 21.945 (September 1995), amended LR 23.958 (August 1997), LR 25:1467 (August 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1609 (August 2000), LR 27:2232 (December 2001), LR 28:996 (May 2002), LR 29:700 (May 2003), LR 29.1467 (August 2003).

#### **§2535. Availability**

A. Copies of these documents may be obtained from:

Government Institutes, Inc.  
4 Research Place, Suite 200  
Rockville, Maryland 20850  
(301) 921-2355

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).

**HISTORICAL NOTE.** Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 21.945 (September 1995).

### **Subchapter O. Criteria for Extending Compliance Dates Under Section 301(i) of the Act—Reserved**

### **Subchapter P. Criteria and Standards for Best Management Practices Authorized Under Section 304(e) of the Act - Reserved**

### **Subchapter Q. Criteria and Standards for Imposing Conditions for the Disposal of Sewage Sludge under Section 405 of the Act - Reserved**

### **Subchapter R. Toxic Pollutant Effluent Standards and Prohibitions**

#### **§2601. Scope and Purpose**

A. The provisions of this Subchapter apply to owners or operators of specified facilities discharging into waters of the state.

B. The effluent standards or prohibitions for toxic pollutants established in this Subchapter shall be applicable to the sources and pollutants hereinafter set forth, and may be incorporated in any LPDES permit, modification or renewal thereof, in accordance with the provisions of this Subchapter.

C. The provisions of LAC 33:IX.Chapter 23.Subchapters E-M and O-Q shall apply to any LPDES permit proceedings for any point source discharge containing any toxic pollutant for which a standard or prohibition is established under this Subchapter.

**AUTHORITY NOTE.** Promulgated in accordance with R.S. 30:2001 et seq., and in particular 2074(B)(3) and (4).